Natural Resources Conservation Service
Conservation Practice Standard

Practice Pest Management
Code 595 (Acre)

DEFINITION

Managing pests including weeds, insects, diseases and animals.

PURPOSE(S)

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

1. To enhance the quantity and quality of agricultural commodities.

2. To minimize the negative impacts on soil resources.

3. To minimize the negative impacts of pest control on water resources.

4. To minimize the negative impacts of pest control on air resources.

CONDITION WHERE PRACTICE APPLIES

Wherever pest management is needed.

CRITERIA

Criteria Applicable to All Purposes:

1. A pest management component of a conservation plan will be developed.

2. Methods of pest management must comply with federal, state, and local regulations.

3. Integrated Pest Management (IPM) programs will be used that strives to balance economics, efficacy and environmental risks. Acceptable cultural, biological, and chemical pest control is met when pests are controlled to the level the producer can achieve planned production objectives; or the pests are controlled within established threshold limits (where established) by The Ohio State University.
   a. Cultural Methods
      (1) Use crop rotations.
      (2) Use resistant and/or bioengineered plant and crop varieties.
      (3) Adjust planting times to minimize pest infestations.
      (4) Use tillage (within acceptable erosion control standards) to reduce pest infestations.
      (5) Control insect and disease host plants.
      (6) Use companion or cover crops to suppress weeds.
      (7) Use mulch cover to suppress weeds.
      (8) Use shallow cultivation (within acceptable erosion control standards).
      (9) Use timely mowing.

   b. Biological Methods
      (1) Protect the natural enemies of the pests.
      (2) Use natural enemies.

c. Chemical Methods
   (1) Ground pesticide applications (within label restrictions) including: broadcast soil surface applications, broadcast foliar applications, soil band application, foliar directed applications, rope-wick foliar applications, and soil incorporated pesticides.
   (2) Aerial pesticide applications (within label restrictions).
   (3) Pesticide treated seed or seedlings (within label directions).

4. The pest management plan shall identify mitigation techniques to address the environmental risks of pest management activities in order to treat identified resource concerns. Mitigation techniques include practices such as filter strips, conservation tillage, crop rotations, and management techniques like application timing and methods of application.

5. When developing alternatives and applying chemical controls of pest management the following will apply:
   a. OSU Extension recommendations and label instructions will be followed. Particular attention shall be given to the environmental hazards and site specific application criteria.
   b. Compliance with federal, state, and local laws is required (Food Quality Protection Act; Federal Insecticide, Fungicide and Rodenticide Act; Worker Protection Standard; and the Interim Endangered Species Protection Program.

Additional Criteria to Protect Soil Resources

1. In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss below or equal to soil loss tolerance (T).

2. Label restrictions shall be followed for pesticides that can carry over in the soil and harm subsequent crops.

Additional Criteria to Protect Water Resources

1. Once the decision has been made to use a chemical pest control method, selection of the product shall be made based on the following criteria.
   a. The pesticides suitability to control the identified pest(s).
   b. The potential of the pesticide to leach or runoff the application area.

2. The following risk assessment procedures shall be used to evaluate the leaching and runoff potentials.
   a. Groundwater Protection Assessment Procedure:
      (1) Pesticides with a "GROUNDWATER ADVISORY" on the label are a high risk of groundwater contamination on the soils listed in Table 1 – Soils with High Risk for Pesticide Pollution to Groundwater. Table 1 is part of this standard. EXTREME CAUTION shall be exercised if pesticides with a "Groundwater Advisory" are used on the soil types listed in Table 1. <u>If a field contains one-third (1/3) or 8 acres of a soil type listed in Table 1, whichever is larger, the soil/field shall be considered a high risk.</u> GROUNDWATER DEFINITION: The water within the saturated zone, below the ground surface, that directly supplies a private well or public well. The following pesticides have been found in groundwater in Ohio:

Common Name	Trade Names
Alachlor	Lasso and other products containing Lasso.
Metolachlor	Dual and other products containing Dual.
Atrazine	Atrazine and other products containing Atrazine.
Cyanazine	Bladex and other products containing Bladex.
Simazine	Princep, Simazine, and other products containing Princep or

	Simazine.
Metribuzin	Sencor, Lexone, and other products containing Metribuzin
Clopyralid	Stinger

(2) The following techniques can be used to reduce the risk of groundwater contamination. One or more of the techniques shall be used when using a pesticide with a "Groundwater Advisory" on the soils/fields listed in Table 1.
   (a) Use the lowest pesticide rate that is recommended by the label for the soil type and identified pest.
   (b) Use suitable alternative pesticide(s) or other cultural/biological methods to control the identified pests.
   (c) Avoid the use of the same pesticide with a "Groundwater Advisory" in successive applications or two consecutive years.
   (d) Foliar apply pesticides labeled for foliar application (e.g. Atrazine) versus soil application of those pesticides.

b. Surface Water Protection Assessment Procedure:

The same pesticides identified in the "Groundwater Protection Assessment" are also high risk to surface water (the one exception being Clopyralid-Stinger). Pesticides carrying the "Groundwater Advisory" on the label shall only be used on soils/fields that are managed within their soil loss tolerance (T).

c. Assessment Procedure Where a Pesticide "Water Resource Concern" has been Identified:

Where a "Water Resource Concern" has been identified, the "Pesticide Assessment Procedure" outlined in Section II-D of the FOTG or the NRCS Windows Pesticide Screening Tool (WinPST) shall be used to evaluate the first tier potential risk of a pesticide to leach or runoff the application area. A joint committee/task force consisting of local, state, federal agencies and other appropriate groups will be formed for each identified "Water Resource Concern Area" to develop specific guidance, standards, and procedures to address the specific concerns for that particular area. A copy of the "local"guidance, standards and procedures will be filed with this standard in the local FOTG.

Additional Criteria to Protect Air Resources

Follow pesticide labels instructions for minimizing volatilization and drift that may impact non-target plants, animals, and humans.

CONSIDERATIONS

1. Use field scouting and economic thresholds to determine when and if a pesticide should be used.

2. In addition to the assessment procedures specified to evaluate the potential leaching and runoff risk, consider site characteristics (slope, soil, organic matter %, soil pH, amount of residue cover, the adjacent land uses) and other pesticide characteristics (potential damage from drift, distance from streams/lakes, distance from a drinking water source, time restrictions on planting other crops, waiting periods to feed or consume crops, pesticide half-life, and field reentry waiting times).

3. Plan erosion control and runoff control practices to minimize pesticide runoff in surface water.

4. Use band application of pesticides where soil erosion is minimal and shallow cultivation's can be used to control pests.

5. When alternatives are available, avoid the use of the same pesticide of similar chemistry year after year to reduce the potential of developing pesticide resistance.

6. Consider using drift reduction nozzles and spray additives to minimize the potential of spray drift.

7. Consider using pesticides requiring smaller amounts of “active ingredients” per acre to minimize potential leaching and runoff.

8. Consider using pesticides with a shorter “half-life” to reduce the potential of leaching or runoff.

PLANS AND SPECIFICATIONS

1. The pest management component of the conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

2. As a minimum, the pest management component of a conservation plan will include:
   a. Aerial photo or sketch map and soils map of the managed fields.
   b. The location of sensitive resources and setbacks
   c. Crop sequence and rotation if applicable.
   d. Identification of target pests and the IPM scheme for monitoring pest pressure.
   e. The recommended methods of pest management (cultural, biological, and chemical) including rates, product and form, timing, and method of applying pest management.
   f. When used, the results of pest management assessments (SPISP, WIN_PST, NAPRA, RUSLE, etc.) and a narrative describing potential impacts on non-target plants and animals, soils, water and air resources.
   g. Operation and maintenance instructions.

OPERATION AND MAINTENANCE

The pest management component of the conservation plan will include the following operation and maintenance items.

1. A safety plan complete with telephone numbers and addresses for emergency treatment centers for personnel exposed to chemicals. For human exposure questions, the telephone number for the nearest poison control center should be provided. Poison Information Centers and Contacts for Pesticide Spills, Fires and Accidents are listed in the OSU Weed Control Guide and available on the OSU Web Site www.ag.ohio.edu/~ohioline.

2. Post signs according to label directions and/or federal, state, or local laws around the fields that have been treated.

3. Read and follow label directions, maintain appropriate Material Safety Data Sheets (MSDS), and be certified to apply restricted chemicals.

4. Maintain application equipment in good operating condition to prevent injury to humans and contamination of the environment.

5. Calibrate application equipment to ensure that pesticide applications are within 5% of the planned rates.

6. Soil test on a regular basis, at least once every 3 years, to monitor surface pH.

7. When cleaning equipment after pesticide application, remove and save the excess material in an appropriate manner. Wastewater resulting from the flushing should be kept away from wells, streams, ponds, lakes, other water bodies, sinkholes, and high runoff areas.

8. Avoid unnecessary exposure to pesticide. Use protective clothing, a respirator, gloves, eye protection, and other safety equipment when appropriate.

9. Dispose of product containers in an appropriate manner according to label, local and/or state regulations.

10. Follow all local, state, and federal regulations regarding the transport of pesticides. Know what to do in case of an accidental pesticide spill.

11. Producers shall maintain pesticide application records for three years.

TABLES
Table 1. Soils with High Risk for Pesticide Pollution to Groundwater.

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References and Additional Information:
OSUE Fact Sheets related to Insects, Weeds, Diseases, Control Methods, and Pesticide Safety can be found on the Ohio State University Web Site: **www.ag.ohio.edu/~ohioline**

Table 1. Soils with High Risk for Pesticide Pollution to Groundwater.

SOIL NAME	KIND OF UNIT	MODIFIER	SOIL 5 RECORD NUMBER
Abscota	Variant		OH0293
Adrian	Series		MI0028
Adrian	Series	MAAT > 50	MI0385
Algansee	Series		MI0123
Bixler	Series		OH0184
Bogart	Series		OH0056
Brady	Series		MI0025
Bronson	Series		MI0060
Carlisle	Series		MI0020
Carlisle	Series	Flooded	MI0372
Carlisle	Series	MAAT > 50	MI0386
Ceresco	Series		MI0015
Cohoctah	Series		MI0040
Edwards	Series		MI0016
Elnora	Series		NY0016
Galen	Series		NY0111
Galen	Variant	Bedrock Substratum	OH0258
Gilford	Series		IN0003
Gilford	Series	Flooded	IN0484
Glendora	Series		MI0034
Granby	Series	MAAT > 50	MI0029
Granby	Series	MAAT > 50	MI0395
Hoopeston	Series		IL0080
Kerston	Series		MI0022
Kingsville	Series		OH0070
Lamson	Series		NY0041
Linwood	Series		MI0001
Martisco	Series		NY0106
Matiisco	Series	Sandy Substratum	NT0292
McGuffey	Series		OH0289
Melvin	Series		KY0025
Melvin	Series	Ponded	KY0119
Metamora	Series		MI0087
Millgrove	Series		OH0003
Muskego	Series		WI0046
Muskego	Series	Marshy	WI0437
Muskego	Variant		OH0321
Olentangy	Series		OH0144
Ottokee	Series		OH0010
Perrin	Series		MI0056
Pinnebog	Series		MI0282
Roundhead	Series		OH0288
Shoals	Variant		OH0316
Skidmore	Series		KY0060
Stafford	Series		NY0018
Stafford	Variant		OH0193
Swanton	Series		ME0017
Tawas	Series		MI0027
Tedrow	Series		OH0026
Tedrow	Series	Loamy Substratum	OH0222
Tioga	Series		NY0075
Tioga	Variant		OH0192
Tyner	Variant		OH0243
Weyers	Series		OH0278

Wilmer	Series		OH0129